

## **FUELS AUTOMATED SYSTEM:**

The Fuels Automated System (FAS) is an Automated Information System (AIS) designed to support the Defense Energy Support Center (DESC) and the Military Services in performing their responsibilities in energy management and distribution. FAS is a multi-functional AIS that provides point of sale data collection, inventory control, finance and accounting, procurement and facilities management. FAS is composed of an integrated set of commercial-off-the-shelf (COTS) software applications which reside on COTS computer hardware. The system will provide interfaces to existing logistics/financial AISs. FAS consists of Base Level and Enterprise Level applications. The interface that feeds FAS is being analyzed. When the feed is determined, changes will need to be made to accommodate these changes.

The Base Level system is comprised of the Coggins Systems FuelsManager. FuelsManager is a software product for tank farms, terminals, pipelines, airfield distribution systems and other management facilities. With FuelsManager, operators of these facilities can acquire tank and product data, dispatch personnel and equipment, schedule personnel, product quality analysis and equipment maintenance, and reconcile customer accounts for the safe and efficient management of their facilities. FuelsManager operates in a multi-user-distributed environment through MS Windows NT.

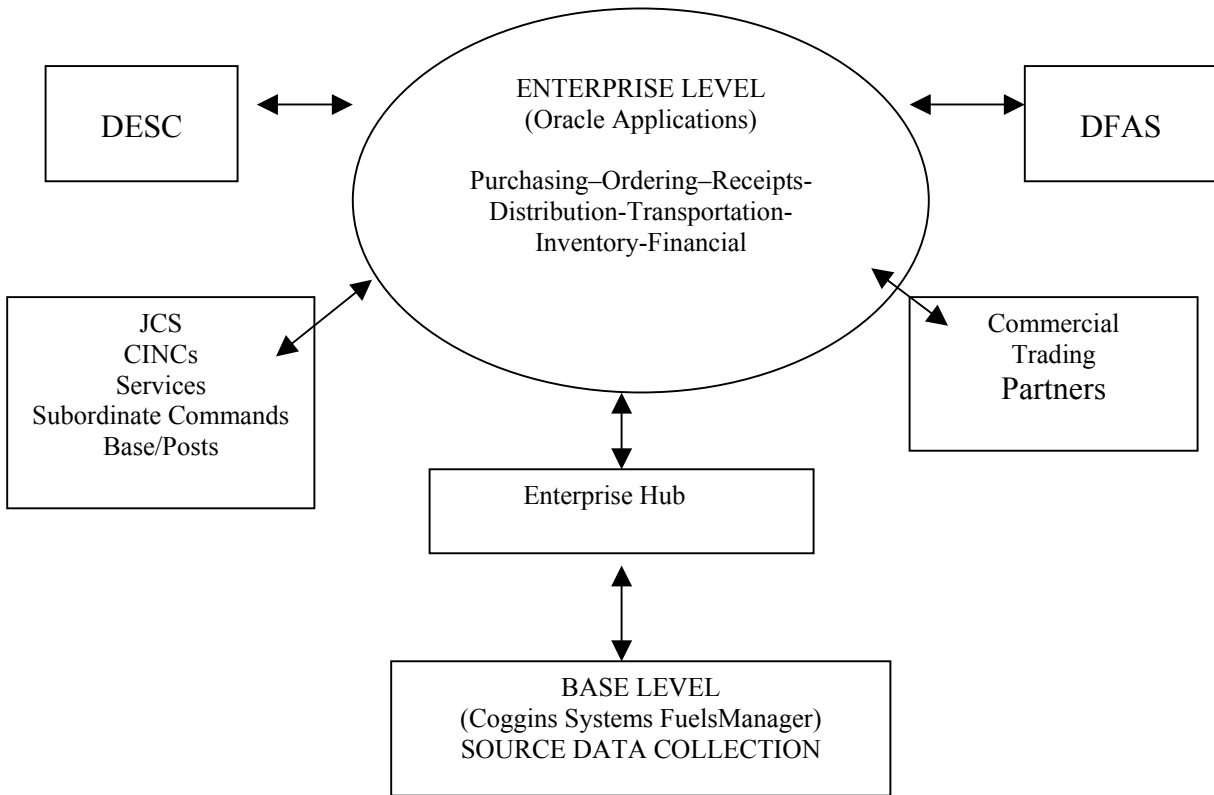
The Base Level system provides for the following core functions: documenting receipts of fuel, documenting issues/sales, booking to physical inventory accounting, and scheduling quality checks. The Base Level system will also provide automated interfaces with all automated fuel handling equipment, such as service stations and automated tank gauging systems.

The Fuels Control Center (FCC) component of FuelsManager is used with the interactive operational duties of a fuels facility. The FCC offers full control of all assets in fuels management. The system supports fuel requests, , asset management, customer accounting and product quality control. In addition, the FCC at the Base Level performs automated sales receipts and inventory reconciliation.

The FAS Enterprise Level, consists of Oracle Government Financials (OGF) and Oracle Energy Downstream (OED) applications. These applications cover the business requirements for the purchase of fuel, movement and transportation of government specification fuel from the refinery to the base, inventory control at all terminals and finance and accounting requirements associated with this business. It also handles the processing of transactions that occur off base and recorded on card systems.

OED handles the purchasing of oil with contracts relating to a flexible oil price and the movement of oil via pipeline, tanker, barge, road and rail, and has the ability to record losses between loads and discharges. OED will accept data from the FAS Base level system relating to the movements of oil to the Bases and the sale of oil to the Services. OED will also input data regarding physical stocks so that stock reconciliation can be carried out across all the bases. Finally, OED will invoice the appropriate service organization for the fuel. OED will link with OGF to provide functionality for accounts Payable, accounts Receivables and General Ledger. These applications provide a complete solution for budgetary and proprietary accounts.

The Load Balancing Server (LBS) or Enterprise Hub (EH) serves as a gateway between the Base Level and the Enterprise Level. The LBS validates the information received from the Base Level and provides data warehouse information needed by the Enterprise Level. The FAS uses the Coggins System's software, eServer and eConnect, as the primary mechanism for sending and processing transactions from Base Level systems. Each Base Level system utilizes the eConnect software at the LBS to allow the FAS Transaction Broker to coordinate communications using a predefined protocol. Figure 1 shows a FAS architecture and integration diagram.



**Figure 1 - FAS Architecture & Integration**

All transactions conform to the following Backus-Naur Format (BNF) for passing transaction parameters and values:

```

trans_value = { status_request_value | parameter_request_value }
status_request_value = transaction_# [, transaction_# ...] ;
parameter_request_value = param_name : param_value [, param_name: param_value ...] ;
param_value : { "any printable character" | {+|-}number[digits] | yyyy/mm/dd hh:mm:ss}
Note that the transaction value can be packed into one or more messages as needed.

```

Oracle will return following messages using "pipe\_name" specified in the sent message:

Message Number	Description
1	# of total messages sent (including this one)
2	# of messages and # of transactions processed
if status was requested, the following message will also be sent in addition:	
3	transaction #: transaction status
4	transaction status
...	...
n	transaction #: transaction status
...	...

**Table 2 - Return Status**

BNF for the transaction\_status is as follows:

transaction\_status = (status\_code)[error\_name [,error\_name ...]] ;

status\_code = [ INITIAL | VALIDATED | MOVED | FINISHED | ERROR | CUSTOMER | NOT\_FOUND ]

- INITIAL means that transaction is ready to be validated
- VALIDATED means that transaction has been validated and is ready to be moved into Financial Interface tables
- MOVED means that transaction has been moved into Financial Interface tables
- FINISHED means that transaction has been moved from Financial Interface tables to Financial Internal tables
- ERROR means that transaction had one or more errors during processing
- CUSTOMER means that transaction is currently not a valid customer in LBS system but could be a valid customer in the future date
- NOT\_FOUND means that transaction record is not found in LBS system

Transaction status can be packed into one or more messages as needed.

The flat file format required for SEACARD ships bunkers is as follows. This file should be vertical bar '|' delimited with the last character on each record being a vertical bar.

bute name	Optional	Type
tail_number	not null	varchar2(8)
dodaac_id	not null	varchar2(60)
sale_date	not null	date
tid_code	not null	varchar2(2)
unit	not null	varchar2(3)
unit_price	not null	number
quantity	Optional	number(12,3)
invoice_amount	not null	number
subinv_name	not null	varchar2(10)
receipt_id	Optional	number(10)
soe_type	Optional	varchar2(10)
process_status	not null	varchar2(30)
site_id	not null	number(10)
project_code	Optional	varchar2(40)
document_id	Optional	varchar2(50)
signal_code	not null	varchar2(12)
sale_type	Optional	varchar2(20)
vendor_code	not null	varchar2(20)

**Table 3 - Transaction Flat File Format**

Attribute name	Optional	Type
vendor_code	not null	varchar2(20)
vendor_name	not null	varchar2(100)
vendor_contact_fname	Optional	varchar2(30)
vendor_contact_lname	not null	varchar2(50)
vendor_address1	not null	varchar2(240)
vendor_address2	not null	varchar2(240)
vendor_address3	Optional	varchar2(240)
vendor_city	not null	varchar2(60)
vendor_state	not null	varchar2(60)
vendor_postal_code	not null	varchar2(60)
vendor_country	Optional	varchar2(60)

**SECURITY REQUIREMENTS:**

Class C2 level of security controls, i.e., "Controlled access Protection", that are specified in DoD 5200.28 STD, "Department of Defense Trusted Computer System Evaluation Criteria" (the Orange Book). The Web address to view or print DoD 5200.28 STD is:

<http://www.radium.ncsc.mil/tpep/library/rainbow/5200.28-STD.html>

In addition, corresponding controls published in the international standard ISO/IEC 15408, the "Common Criteria for Information Technology Security Evaluation", dated 15 November 1998, are available but have not been mandated by DoD at this time. The Web address to view or print ISO/IEC 15408 is:

<http://csrc.nist.gov/cc/ccv20/ccv2list.htm>

**APPLICABLE PUBLICATIONS AND REGULATIONS:**

The following are incorporated herein by reference and are mandatory.

DoD 5200.28 STD      Department of Defense Trusted Computer System Evaluation Criteria

ISO/IEC 15408      Common Criteria for Information Technology Security Evaluation

**Level III data includes:**

- a) Invoice number
- b) Date of invoice;
- c) Total dollar value of invoice;
- d) Vessel Identification
- e) Branch of service and unit to which the vessel belongs (Navy and Marine Corps-USN; Army-USA, Air Force-AF) or Federal Civilian Agency or Federal Civilian Agency abbreviation;
- f) Mission Design Series (MDS) or Type Model Series (TMS) up to 7 digits;
- g) Fund Code (2 digits) alpha/numeric;
- h) Signal Code (1 digit) alpha/numeric;
- i) Department of Defense Activity Address Code (DoDAAC or the Federal Activity Address Code (FedACC);
- j) Supplemental DoDAAC if the signal code is any letter other than "A";
- k) Date fuel was provided;
- l) Quantity of fuel (in US gallons) provided and the transaction US gallon unit price for that fuel;
- m) Converted US dollar price per local unit of sale and net savings due to SEA Card price per local unit of sale;
- n) Grade of fuel provided;
- o) Identify all applicable taxes and their per unit amounts (Federal, State, Local, Territorial, etc.);
- p) Identify all applicable fees and their per unit price;
- q) Total price for bunkering; and
- r) Transaction date.
- s) Subtotals at the ticket level, the DoDAAC level, and the Branch of Service level

**ANSI ASC X12 format requirements:****ADDRESS File**

DoDAAC	6	(or equivalent)
Customer Identification Code (CIC)	3	
Unit Id	9	
Address Type	1	
Organization Name	40	
POC Name	20	
Address Line 1	40	
Address Line 2	40	
City	20	
State	2	
Country	20	

Zip Code	10
Email address	40
FTP address	40
Commercial Phone #	20
Commercial Fax #	20
Invoice Format	3
Transmittal Mode	5

### **INVOICES:**

Invoices submitted to DESC shall contain the following information:

- a) Contract number, Invoice No;
- b) Name of contractor;
- c) Actual date;
- d) Contract CLIN number; and
- e) Product codes\*

\* DESC Web Page has information for CONUS/OCONUS locations under Ships bunkers contract. The URL for this information is----[www.desc.dla.mil/main/p/specialt/xxx/intro.htm](http://www.desc.dla.mil/main/p/specialt/xxx/intro.htm)

### **FTP FORMAT:**

Contract Number	1-30	Alphanumeric	(24-30)
Invoice Number	31-44		(40-44)
Invoice Number Prefix	31-34	Alphanumeric (right justified)	
Invoice Number Suffix	35-44	Alphanumeric (left justified)	
Control Number	45-55	Alphanumeric (left justified)	(45-55)
Date Invoiced	56-63	Format (DDMMYYYY)	(56-63)
Date Received	64-71	Format (DDMMYYYY)	(64-71)
Discount Payment Days	72-74	Numeric	(72-74)
Discount Payment Indicator	75-75	Alphanumeric	(75)
Discount Payment Value	76-81	Numeric	(76-81)
Line Item Number Prefix	82-87	Alphanumeric (right justified)	(84-87)
Line Item Number Suffix	88-91	Alphanumeric (left justified)	(88-89)
NSN	92-111	Numeric (left justified)	(92-104)
Payment Purpose Code	112-112	Alphanumeric (P = Product; D = Defuel; R = Reservice; blank = F	
Total Quantity Billed	113-121	Numeric	(113-121)
Unit Price	122-131	Numeric (6 decimal places)	(122-131)
Invoiced Amount	132-140	Numeric (2 decimal places)	(132-140)
Billing Effective Dates	141-156	Numeric (Format	
		DDMMCCYYDDMMCCYY)	(141-156)
Debit/Credit	157-157	Alphanumeric	(157)
Branch of Service	158-161		(158-160)
Sub-Branch of Service	162-163		
DoDAAC/FEDACC	164-173		(164-169)
Unit/Wing/Squadron	174-183		
Supaac	184-193		(184-190)
Fund Code	194-195		(194-195)
Signal Code	196-196		(196)
Tail Number/Serial Number	197-206		(197-200)
Model of Vessel	207-216		(207-209)
DoD Form ID			(221-227)
DoD Form ID prefix	217-221		
DoD Form ID suffix	222-231		
Uplift Date	232-239	Numeric (Format DDMMCCYY)	(232-239)
Clin1898 Quantity Billed	240-248	Numeric (2 decimals)	(240-248)
Customer Identification Code	249-252	Alpha/Numeric	(249-252)

## MAGNETIC STRIPE FORMATTING REQUIREMENTS:

Example:

Track 1                    **A6010295009990017^XYZ Corporation^0112701**  
Track 2                    **6010295009990017=0112701000000000000000**

### Track One (max lengths)

FC	Account Number	FS	Account Name	FS	Exp. Date	Svc Code	Disc. Data
	1                    2		3                    4		5		6                    7
1	2345678901234567890	1	23456789012345678901234567	8	9012	345	678901234567890

Code	Description	Picture	Example
FC	Format Code (Constant)	X(01)	A (literal)
Account Number	Credit Card Number	9(19)	6010295009990017 (3 spaces not currently used)
FS	Field Separator (Constant)	X(01)	^ (literal)
Account Name	Credit Card Name (0 to 26 characters)	X(26)	Company Name, USN, AF, USA
FS	Field Separator (Constant)	X(01)	^ (literal)
Exp. Date	Expiration Date	9(04)	0112 (YYMM)
Svc Code	Service Code Indicator (Constant)	X(03)	701 (literal)
Disc. Data	Discretionary Data	X(15)	Miscellaneous CardholdInfo

### Track Two (max lengths)

Account Number	FS	Exp. Date	Svc Code	Disc. Data
1                    2				3                    4
1234567890123456789	0	1234	567	890123456789012

Track Two must have all numeric values, with the exception of approved special characters.

Code	Description	Picture	Example
Account Number	Credit Card Number	9(19)	6010295009990017 (3 spaces not currently used)
FS	Field Separator (Constant)	X(01)	= (literal)
Exp. Date	Expiration Date	9(04)	0112 (YYMM)
Svc Code	Service Code Indicator (Constant)	9(03)	701 (literal)
Disc. Data	Discretionary Data	9(15)	Miscellaneous Cardholder Info

## F56.01 DELIVERY AND INVOICING REQUIREMENTS (INTO-PLANE) (DESC JUL 2002)

(a) **GENERAL DELIVERY CONDITIONS.** Except as otherwise provided in the Schedule--

(1) Delivery shall be made f.o.b. to the aircraft or specified Government equipment.  
(2) The Contractor shall provide a responsible source of contact 24 hours a day, 7 days a week, to make prompt fuel deliveries.

(3) Requests for delivery shall be made by the Ordering Officer, and the Contractor shall deliver the product to be furnished by all methods of delivery.

(4) Defuel and reservice of product from aircraft shall be processed as a ground service. In contracts where defuel and reservice have been authorized as a separate contract line item number (CLIN), the DEFUELING/RESERVICING clause applies.

(5) If an into-truck or into-bladder line item is awarded, the Contractor shall deliver the product into U.S. Government-owned or leased refueling units via a permanently installed bulk storage dispensing system located at the airport or the Contractor's facility.

(6) Aircraft to be refueled shall be serviced promptly on a first come, first served basis excluding regularly scheduled aircraft.

(7) The Contractor is authorized to make deliveries of awarded products into U.S. Government aerospace ground support equipment if requested by the Ordering Officer. Such deliveries into other than aircraft or refueling units shall be treated as deliveries into aircraft.

(8) The unit of quantity, as used in this contract, shall be in U.S. gallons of 231 cubic inches. The quantity delivered hereunder shall be determined by calibrated meter and shall be determined as net for invoicing purposes.

(9) Where calibrated meters are rated in liters and imperial gallons, the following conversion factors will be used to obtain U.S. gallons:

(i) Multiply liters by 0.264172.

(ii) Multiply imperial gallons by 1.20095.

(b) PREPARATION OF DELIVERY RECORDS FOR MANUAL AND ELECTRONIC POINT OF SALE PROCESSING OF AVIATION INTO-PLANE REIMBURSEMENT (AIR) CARDS.

(1) For refueling purposes, the Ordering Officer (aircrew member) will provide a U.S. Government AIR Card (commercial purchasing card). The AIR Card is gold in color with an eagle in the background, black lettering, and AIR Card Contractor (ACC) logo.

(i) **Manual Transactions.** Using a mechanical imprinter, the Contractor shall ensure the data embossed on the AIR Card is transferred onto the commercial delivery receipt or U.S. Government form.

(ii) **Electronic Point of Sale (POS) Reader or Electronic Reader Transactions.**

(A) **ACC Provided Readers.** In accordance with the AVCARD contract, the ACC will provide at no cost to CONUS into-plane contract Fixed-Base Operators (FBOs) an electronic POS reader. AVCARD manages and maintains ownership of the POS readers. Included in the management is the programming of the reader, shipping, training of personnel at the FBOs, and maintenance of the POS readers. The only cost to the Contractor is the paper that is needed in the operation of the reader.

(B) **Non-ACC-Provided Readers.** If the Contractor has a POS reader that has not been provided by the ACC, the Contractor shall test the transaction with the ACC to ensure that the applicable reader software is compatible with the ACC equipment. The reader must be programmed to reflect the DESC contract award information. Standard commercial readers programmed only for commercial transactions may not be used unless tested and reprogrammed with the ACC.

(2) In the event the Ordering Officer fails to physically show the gold AIR Card to the refueler, the Ordering Officer and refueling crew will jointly and physically verify the tail number of the aircraft to be refueled or, in the case of the U.S. Navy, the Navy Unit Identification Number/Serial Number and the aircraft's home station and address. The Ordering Officer may also obtain the AIR Card number by calling the ACC at **1-800-AVCARD-1 (1-800-282-2731)** or international collect at **1-410-771-3083**. If the Ordering Officer is unable to provide either an AIR Card or to obtain the requisite AIR Card information via the aforementioned phone numbers, the purchase shall be processed as a local purchase. The Contractor shall forward the DD Form 44 or AF Form 315/15 used for local purchases to DESC-RR for validation and processing. If the aircrew does not comply with the above while at the contract location, the Contractor shall notify the DESC Contracting Officer of the incident, in writing, within 72 hours of occurrence in an effort to further educate the aircrew of the required into-plane procedures. Written notification to the Contracting Officer shall explain the situation, the method of purchasing, and identification of the aircrew and unit that failed to have the proper identification card.

(3) The Contractor shall ensure at a minimum that the following data *are recorded* (printed or a combination of printing and imprinting) on the delivery receipt after the Ordering Officer presents an AIR Card. The Contractor shall record deliveries to all U.S. or U.S.-designated aircraft on a commercial delivery receipt or U.S. Government form.

(i) Merchant Identification Number (MIN) (available from the ACC – Call **1-800-AVCARD-1**) or the four character ICAO airport identifier.

(ii) AIR Card Number (Carnet number);

(iii) Tail number/Side number or Navy Unit Identification Code/Serial Number (no more than 10 characters: alpha/numeric);

(iv) Contract Number;

(v) Delivery date reflected as MM/DD/YY(YY) or DD/MM/YY(YY) or by Julian date;

(vi) Grade of fuel;

(vii) Net quantity in U.S. gallons for fuels (expressed in whole numbers only);

(viii) **Signature of fueling operator and signature of Ordering Officer.** If a DD Form 1898 Identaplate is presented, the Contractor should annotate the Squadron, address, and telephone number on the delivery ticket and subsequent invoice, and separate invoices from AIR Card receipts for separate processing.

(ix) **Overtime charges.** If authorized under the contract, these charges shall be documented by annotating the start and stop times and the total time for overtime charges; i.e., 1 hour and 15 minutes would be reflected as 1.25; 2 hours and 30 minutes would be reflected as 2.50. If the Contractor fails to annotate the time on the delivery receipt, the Contractor's annotated delivery ticket signed by the Ordering Officer is also acceptable to substantiate overtime charges. Billing of the overtime will be on the same invoice as the applicable delivery; and

(x) Defuel/Reservice if authorized under the contract.

(c) SUBMISSION OF INVOICES FOR PAYMENT FOR MANUAL TRANSACTIONS.

(1) The Contractor will prepare and the Ordering Officer will sign a commercial delivery receipt, sales ticket, or U.S. Government form at the time of delivery. One copy of the delivery receipt must be furnished to

the pilot or crew chief at the time of delivery. A copy of the delivery receipt/ticket shall be retained by the Contractor and a copy of the delivery receipt/ticket shall be processed with the Contractor's invoice to the ACC.

(2) For deliveries of product into-plane, into-truck, or into-bladder to U.S.-designated aircraft or authorized users, Contractors shall submit via regular mail an invoice with the information outlined in (b)(3) above and a summary of commercial delivery receipt information or sales data to the following address:

AVCARD  
DESC AIR CARD CONTRACTOR (ACC)  
PO BOX 1697  
BALTIMORE, MD 21203-1697

(3) If invoice and summary are dispatched by courier, see the COURIER DELIVERY OF INVOICE (INTO-PLANE) clause.

(4) The applicable invoice can be sent electronically via email or by flat file format to the ACC; however, Contractors shall make the necessary arrangements through the ACC prior to submitting electronic data. Facsimile invoices are authorized and shall be sent to the ACC at **1-410-771-0516**. The ACC's confirmation number is **1-410-771-3058**.

(5) By submission of an invoice for payment processing, the Contractor certifies that all delivery receipts supporting the subject invoice were signed by an Ordering Officer from an aircraft of an authorized user listed in this clause. Summary delivery receipt data submitted by the Contractor shall contain the information noted in (b) above.

(6) DFAS Columbus will be responsible for making payments in U.S. dollars on all contract line items awarded.

(7) In addition to the elements listed in the CONTRACT TERMS AND CONDITIONS COMMERCIAL ITEMS clause, the elements of a **proper into-plane invoice** from the Contractor to the ACC are as follows:

Contract number  
Delivery date  
Total dollar value of the invoice  
Delivery ticket numbers

**AND**

**AIRCRAFT INFORMATION**

**AIR Card**

AIR Card Number (Carnet Number)  
Tail Number/Side Number or  
Navy Unit Identification Code/Serial Number

**NOTE:** Tax exemption documents, customs clarification sheets, etc., shall also include the contract number, CLIN, and applicable invoice number that shall be sent to the ACC along with the invoice package. Only one applicable document per invoice is allowed.

(d) **ANCILLARY GROUND SERVICES.** The AIR Card can also be used to purchase authorized ground services. At a minimum, allowable ground/ramp services are stated below.

- (1) Defuel/reservice;
- (2) Aircraft landing, ramp or parking fees;
- (3) Slot time fees;
- (4) Necessary ground equipment service (i.e., GPU, baggage conveyer belt, electrical grounding hookup, stairs, start carts, etc.);
- (5) Aircraft housekeeping or cleaning services (i.e., trash collection, vacuuming, lavatory servicing, potable water, etc.);
- (6) Catering, food and non-alcoholic beverage replenishment aboard the aircraft;
- (7) Supplies (i.e., maps, navigational aids);
- (8) Security services for the aircraft at the airport or airfield;
- (9) De-icing services;
- (10) Custom fees (if paid by refueling vendor);
- (11) Lubrication oils, both synthetic and petroleum based;



- (12) Hydraulic Fluid; and
- (13) Aviator breathing oxygen (ABO).

Reimbursements for ground services are made by the ACC directly; therefore, Contractors should contact the ACC for applicable merchant agreements and payment terms and conditions for noncontract line items that will not be reimbursed by DESC or DFAS Columbus. The ACC will accept a consolidated invoice that reflects both contract refueling and ground services received, provided the services have been performed by the same vendor. In the case of defuel and reservice where fuel is defueled and later reserviced with additional fuel quantity being required, the Contractor will bill for the additional quantity at the current escalated contract price.

(e) **AUTHORIZED USERS.** The following aircraft are authorized to obtain fuel at DESC contract locations:

- (1) Aircraft of all Department of Defense components including the National Guard and Reserve activities;
- (2) Agency aircraft of other departments and agencies of the U.S. Government. **NOTE:** Federal Civilian aircraft are authorized but not mandated to use the DESC into-plane contracts for refueling at commercial airports;
- (3) Military aircraft of the Canadian government and Canadian government Department of Transportation presenting a valid AIR Card;
- (4) Aircraft of the German Air Force presenting a valid AIR Card;
- (5) Foreign Military Sales (FMS) aircraft that present an AIR Card;
- (6) State and local law enforcement aircraft, or any aircraft designated in writing by the Contracting Officer during the performance period. (In the event there is insufficient time, the Contractor will be notified verbally, with written confirmation to follow.)
- (7) VIP aircraft are authorized but not mandated to use the DESC into-plane contracts for refueling at commercial locations.
- (8) Incognito aircraft not wishing to be identified as U.S. Government or military-related that present a commercial AVCARD to the Contractor requesting contract price fuel. Written authorization from the Contracting Officer may be provided as well.
- (9) Military aircraft participating in a civil Air Show are authorized but not mandated to use the DESC into-plane contract for refueling during the specified Air Show duties.

(DESC 52.242-9FL1)